

SEQUENCE LISTING

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<120> Fluorescent protein

<130> A41348A

<160> 21

<210> 1

<211> 227

<212> PRT

<213> favia favus

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1 5 10 15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20 25 30

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly

35 40 45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe Asp Tyr Gly

50 55 60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

65 70 75 80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu

85 90 96

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Asp

100 105 110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe

115 120 125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro

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130 135 140
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175
Arg Thr Thr Tyr Lys Ala Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190
Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220
Leu Ala Lys
225
<210> 2
<211> 684
<212> DNA
<213> favia favus
<400> 2

atg agt gtg att aca tca gaa atg aag atg gag ctg ctt atg gaa ggc 48
Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Leu Met Glu Gly
1 5 10 15
gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
20 25 30
cct ttc gag gga ata cag aat atg gac ctg aca gtc ata gag ggc gga 144
Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
35 40 45

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cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc gat tac ggc 192
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe Asp Tyr Gly
50 55 60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
85 90 96

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
100 105 110

ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
115 120 125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
130 135 140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175

aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190

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ttc gtg gat cat cga att gag ata aca agc cat gac aag gat tac aac 624

Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

195

200

205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

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215

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ctg gcc aag taa 684

Leu Ala Lys

225

<210> 3

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 3

ggiwsbgtia ayggvcayda ntt 23

<210> 4

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 4

aactggaaga attcgcgccc gcaggaa 27

<210> 5

<211> 23

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 5

tgccwtttgc ittigayati ttg 23

<210> 6

<211> 35

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

<400> 6

gtcitcttyt gcaciacigg iccatydgva ggaaa 35

<210> 7

<211> 36

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<210> 8

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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ttgtcaagat atcgaaagcg aacggcagag 30

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<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

<400> 9

ggccacgcgt cgactagtac 20

<210> 10

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

<400> 10

gtccaccctc tacgactttg agttccatat 30

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<211> 44

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<210> 12

<211> 227

<212> PRT

<213> favia favus

<400> 12

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly

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5

10

15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20

25

30

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly

35

40

45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly

50

55

60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

65

70

75

80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu

85

90

95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp

100

105

110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe

115

120

125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro

130

135

140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

145

150

155

160

Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe

165

170

175

BEST AVAILABLE COPY

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His

180 185 190

Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

195 200 205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

210 215 220

Leu Ala Lys

225

<210> 13

<211> 684

<212> DNA

<213> favia favus

<400> 13

atg agt gtg att aca tca gaa atg aag atg gag ctg cgt atg gaa ggc 48

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly

1 5 10 15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20 25 30

cct ttc gag gga ata cag aat atg gac ctg aca gtc ata gag ggc gga 144

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly

35 40 45

cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc cat tac ggc 192

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly

50 55 60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

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65	70	75	80
cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288			
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu			
85	90	95	
gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336			
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp			
100	105	110	
ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384			
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe			
115	120	125	
cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432			
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro			
130	135	140	
tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480			
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val			
145	150	155	160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528			
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe			
165	170	175	
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576			
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His			
180	185	190	
ttc gtg gat cat cga att gag ata aca agc cat gac aag gat tac aac 624			
Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn			
195	200	205	
aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672			
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg			

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210	215	220	684
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Leu Ala Lys			
225			
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<211> 227			
<212> PRT			
<213> favia favus			
<400> 14			
Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly			
1	5	10	15
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln			
20	25	30	
Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly			
35	40	45	
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly			
50	55	60	
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys			
65	70	75	80
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu			
85	90	95	
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp			
100	105	110	
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe			
115	120	125	
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro			
130	135	140	

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Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160

Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190

Phe Val Asp His Arg Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220

Leu Ala Lys

225

<210> 15

<211> 684

<212> DNA

<213> favia favus

<400> 15

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Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly

1 5 10 15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20 25 30

cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly

35 40 45

cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc cat tac ggc 192

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Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly
50 55 60
aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80
cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
85 90 95
gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
100 105 110
ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
115 120 125
cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
130 135 140
tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190
ttc gtg gat cat cga atg gag ata aca agc cat gac aag gat tac aac 624

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Phe Val Asp His Arg Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

195 200 205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

210 215 220

ctg gcc aag taa 684

Leu Ala Lys

225

<210> 16

<211> 227

<212> PRT

<213> favia favus

<400> 16

Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Val Arg Met Glu Gly

1 5 10 15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20 25 30

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly

35 40 45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly

50 55 60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

65 70 75 80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu

85 90 95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp

100 105 110

BEST AVAILABLE COPY

Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe

115 120 125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Ser

130 135 140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

145 150 155 160

Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe

165 170 175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His

180 185 190

Phe Val Asp His Leu Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

195 200 205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

210 215 220

Leu Ala Lys

225

<210> 17

<211> 684

<212> DNA

<213> favia favus

<400> 17

atg agt gtg att aca tca gaa atg aag atc gag gtg cgt atg gaa ggc 48

Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Val Arg Met Glu Gly

1 5 10 15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20 25 30

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cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144
Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
35 40 45

cct ctt cct ttt gct ttc gat atc ctg aca aca gca ttc cat tac ggc 192
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
50 55 60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
85 90 95

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
100 105 110

ggc agc aac tgt ttt gtc aat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
115 120 125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag tca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Ser
130 135 140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175

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aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190

ttc gtg gat cat cta atg gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp His Leu Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220

ctg gcc aag taa 684
Leu Ala Lys

225

<210> 18

<211> 227

<212> PRT

<213> favia favus

<400> 18

Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Leu Arg Met Glu Gly
1 5 10 15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
20 25 30

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
35 40 45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
50 55 60

Asn Arg Val Phe Val Glu Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80

BEST AVAILABLE COPY

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu

85

90

95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp

100

105

110

Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe

115

120

125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro

130

135

140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

145

150

155

160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe

165

170

175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His

180

185

190

Phe Val Asp His Gln Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

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Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

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Leu Ala Lys

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<210> 19

<211> 684

<212> DNA

<213> favia favus

<400> 19

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Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Leu Arg Met Glu Gly

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1 5 10 15
gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
20 25 30
cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144
Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
35 40 45
cct ctt cct ttt gct ttc gat atc ctg aca aca gca ttc cat tac ggc 192
Pro Leu Pro-Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
50 55 60
aac cgg gta ttt gtc gaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Glu Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80
cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
85 90 95
gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
100 105 110
ggc agc aac tgt ttt gtc aat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
115 120 125
cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
130 135 140
tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gta 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

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145 150 155 160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190
ttc gtg gat cat caa atg gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp His Gln Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205
aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220
ctg gcc aag taa 684
Leu Ala Lys
225
<210> 20
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<212> PRT
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<400> 20
Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly
1 5 10 15
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
20 25 30
Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
35 40 45

BEST AVAILABLE COPY

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe Gly His Gly
50 55 60
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65 70 75 80
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Xaa Tyr Glu
85 90 95
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
100 105 110
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
115 120 125
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
130 135 140
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190
Phe Val Asp Leu Arg Thr Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220
Leu Ala Lys
225
<210> 21
<211> 684
<212> DNA

BEST AVAILABLE COPY

<213> favia favus

<400> 21

atg agt gtg att aca tca gaa atg aag atg gag ctg cgt atg gaa ggc 48

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly

1

5

10

15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

20

25

30

cct ttc gag gga ata cag aat atg gac ctg aca gtc ata gag ggc gga 144

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly

35

40

45

cct ctt cct ttt gct ttc gat atc ctg aca aca gca ttc ggt cac ggc 192

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe Gly His Gly

50

55

60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

65

70

75

80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Xaa Tyr Glu

85

90

95

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp

100

105

110

ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe

115

120

125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432

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Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
130 135 140
tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145 150 155 160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly His Tyr Arg Cys Asp Phe
165 170 175
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
180 185 190
ttc gtg gat ctt cga act gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp Leu Arg Thr Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
195 200 205
aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
210 215 220
ctg gcc aag taa 684
Leu Ala Lys
225